CLAIMS

What is claimed is:

1. An apparatus which processes audio and/or video (AV) data in an interactive mode using a markup document, comprising:

an AV playback engine which decodes the AV data to output an AV picture; and

an enhanced audio and/or video (ENAV) engine which interprets the markup document to obtain a source markup picture, transforms the source markup picture into a markup picture, combines the markup picture and the AV picture, and outputs an interactive picture including the markup picture and the AV picture.

2. The apparatus of claim 1, wherein the ENAV engine reads device-aspect-ratio information included in the markup document and obtains the markup picture according to the device-aspect-ratio information.

3. The apparatus of claim 1, wherein the ENAV engine obtains device-aspect-ratio information which is information on an aspect ratio of a screen of a target display device intended to display the markup document in the interactive mode.

4. The apparatus of claim 1, wherein the ENAV engine obtains device-aspect-ratio information which is information on an aspect ratio of a screen of a target display device intended to display the markup document in the interactive mode according to a design of a markup document maker.

5. The apparatus of claim 1, wherein the ENAV engine parses device-aspect-ratio information which is written in the markup document using a property of a tag.

6. The apparatus of claim 1, wherein the ENAV engine transforms the source markup picture into the markup picture with a predetermined aspect ratio according to device-aspect-ratio information of the markup document.

7. The apparatus of claim 1, wherein the ENAV engine transforms the source markup picture into the markup picture with an aspect ratio of 4:3 or 16:9 according to device-aspect-ratio information of the markup document.

8. The apparatus of claim 1, wherein the ENAV engine scales the source markup picture to output the markup picture corresponding to device-aspect-ratio information of the markup document in response to information on an aspect ratio of a destination device being different from the device-aspect-ratio information, the destination device substantially displaying the markup document and the device-aspect-ratio information being data including information on an aspect ratio of a target display device intended to display the markup document in the interactive mode.

9. An apparatus for processing a markup document in an interactive mode, comprising:

a controller to output a markup picture of the markup document and a video picture of an audio and/or video data in the interactive mode; and

a markup transformer which transforms the markup picture according to device-aspect-ratio information corresponding to the markup document, the device-aspect-ratio information being data including information on an aspect ratio of a target display device intended to display the markup document.

10. The apparatus of claim 9, wherein the controller embeds the video picture in the markup picture according to embedding information of the markup document

11. The apparatus of claim 9, wherein the device-aspect-ratio information is included in the markup document.

12. The apparatus of claim 9, wherein the markup transformer scales the markup picture according to the device-aspect-ratio information in response to information on an aspect ratio of a destination device displaying the markup document being different from the device-aspect-ratio information and outputs markup picture as is in response to the information on the aspect ratio of the destination device corresponding to the device-aspect-ratio information.